

Biermannia arunachalensis Nag. Rao : A New Orchid from Arunachal Pradesh, India

A. Nageswara Rao

State Forest Research Institute, P. B. No. 159, Itanagar 791 111, Arunachal Pradesh, India.

E-mail: draosfri@sify.com

Abstract

A new species of *Biermannia*, *B. arunachalensis* Nag. Rao, is described from Arunachal Pradesh, India. This species is related to *B. bimaculata* (King & Pantl.) King & Pantl. but differs in having oblanceolate leaves, yellow coloured flowers, obtuse sidelobes and lip without callus inside.

Keywords: New species, Orchid, Arunachal Pradesh, India

Introduction

King and Pantling established the genus *Biermannia* in 1897 based on a collection from Jaintea Hills in Meghalaya. It was 'growing on a tree of *Pinus khasiana* at Jowai at an elevation of about 4000 feet' and they called it *B. quinquecallosa*. Soon after, its related species, *B. bimaculata* (King & Pantl.) King & Pantl., was published from Sikkim (King & Pantling, 1898). Small size, short stem, a few fleshy leaves, 2-6 flowered racemes, column with distinct foot, lip firmly attached to the column-foot and more or less parallel to the column, 2 entire pollinia with a spathulate stipe and a small viscidium are the salient features of the genus. Three species are known from India – *B. bimaculata* (King & Pantl.) King & Pantl., *B. jainiana* Hegde & Nag. Rao and *B. quinquecallosa* King & Pantl. (Hegde & Rao, 1985).

One *Biermannia* with yellow flowers collected from Tipi in West Kameng District of Arunachal Pradesh, upon critical and comparative study based on available literature and herbarium specimens housed at ASSAM, ARUN, CAL and Orchid Herbarium, Tipi proved to be very distinct from so far known species of the genus. It is described here as a new species.

***Biermannia arunachalensis* Nag. Rao, *sp. nov.* Fig. 1**

B. bimaculata (King & Pantl.) King & Pantl. affinis sed foliis oblanceolatis, floribus flavis, labello ecallaso lobis lateralibus obtusis differt.

Type: INDIA, Arunachal Pradesh, West Kameng,

District, Tipi, A. N. Rao 34444 (Holotype, Orchid Herbarium, Tipi).

Small epiphytes; stem c. 1.5 cm long and 3 mm thick with many long, slender roots at base. *Leaves* up to 4, oblanceolate, subfalcate, 5-7 x 1-2 cm, indistinctly unequally bilobed, acute at tip. *Inflorescence* c. 2.5 cm long, axillary, shorter than the leaves and hence concealed by them underneath, clavate, flattened with 2 sterile bracts at 1 cm interval, green, 2 flowered at apex. Flowers yellow, widely opening, c. 2.3 cm across the lateral sepals and 1.3 cm across dorsal sepal and lip, sweet scented, short living; dorsal sepal elliptic, c. 9 x 4 mm, 5 veined, acute; lateral sepals ovate-lanceolate, c. 10 x 5 mm, 5 veined, acute; petals elliptic, c. 8 x 4 mm, 5 veined, acute; lip c. 8 x 4 mm, fleshy, thick, 3 lobed with scattered brown patches and many short glandular villi from base to midportion of the disc; sidelobes triangular, c. 1.5 x 1.5 mm, obtuse; midlobe triangular, c. 3 x 3 mm, truncate, very thick; column c. 3 x 1.5 mm with 1.5 mm long foot, pale yellow; operculum c. 1 x 1 mm, ovate-obtuse, 2 celled; pollinia 2, entire, subglobose, pale yellow; stipe c. 1 mm long, clavate, hyaline; viscidium small, ovate, acute; ovary with indistinct pedicel c. 13 mm long, slender, green. *Fruit* not seen.

Biermannia arunachalensis Nag. Rao is closely allied to *B. bimaculata* (King & Pantl.) King & Pantl. but differs in having oblong-lanceolate leaves, yellow flowers, lip without any callus inside and with broad

and obtuse sidelobes. In *B. bimaculata*, leaves are linear oblong, flowers white, lip with 4 calli inside and sidelobes narrow and acute.

Etymology: The genus *Biermannia* King & Pantling

commemorates Adolf Biermann, one of the early curators of the Botanic Garden at Calcutta and Pantling's predecessor both at Mungpo and Calcutta. This species is named after Arunachal Pradesh, the state from where it was collected.

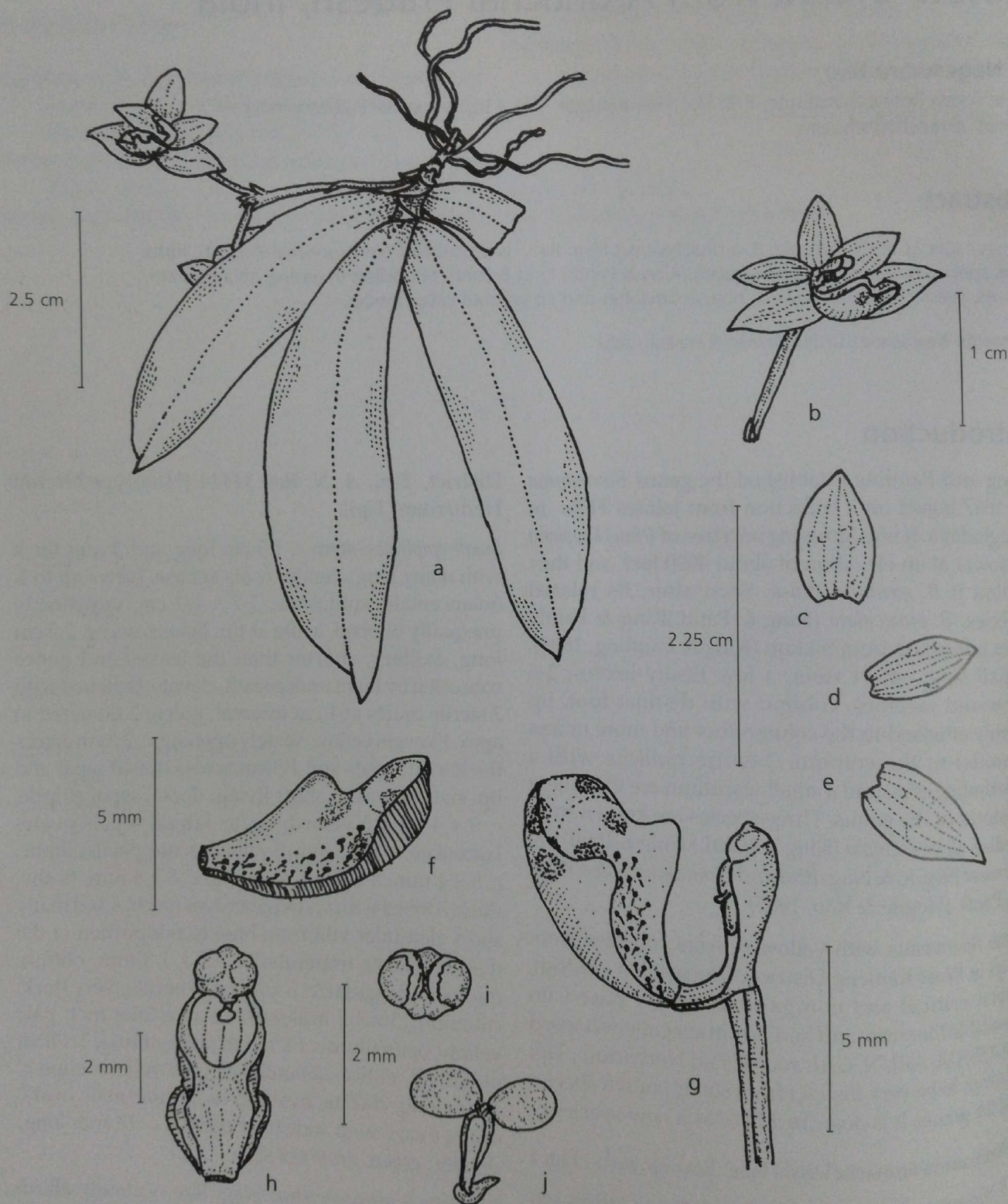


Figure 1. *Biermannia arunachalensis* Nag. Rao- a. Habit; b. Flower; c. Dorsal sepal; d. Petal; e. Lateral sepal; f. Lip cut through middle; g. Lip and column (side view); h. Column (front view); i. Operculum; j. Pollinarium.

Flowering: April.

Habitat: Moss covered branches of small trees of *Thuja orientalis* in the garden campus of Tipi Orchid Research Centre at an altitude of 150 m.

The genus has 11 species distributed from Northeastern India to Java and Sumatra through Thailand, Indochina, Malaysia, Singapore and Indonesia (Seidenfaden, 1988; 1992; Seidenfaden & Wood, 1992). They are keyed out below.

- 1a Lip distinctly 3 lobed2
- 1b. Lip entire, hardly lobed.....9
- 2a. Lip saccate at base.....3
- 2a. Lip not saccate at base.....8
- 3a. Lip base protruded into a globular spur.....
..... **B. calcarata** (Vietnam)
- 3b. Lip base not protruded out.....4
- 4a. Midlobe of lip a thin walled pouch
..... **B. sigaldii** (Vietnam)
- 4b. Midlobe of lip not pouch-like5
- 5a. Sepals and petals spotted; midlobe of lip with
toothed edges.....
..... **B. laciniata** (Malaysia, Singapore)
- 5b. Sepals and petals unspotted; midlobe with
entire edges..... 6
- 6a. Midlobe of lip with 2 calli at base.....
.....**B. bigibba** (Sumatra)
- 6b. Midlobe without any calli at base.....7
- 7a. Inflorescence and flowers about 7 mm
long..... **B. sarcanthoides** (Malaysia)
- 7b. Inflorescence upto 5 cm long; flowers more than
10 mm long..... **B. ciliata** (Thailand, Malaysia)
- 8a. Flowers white; lip with 2 calli at base and 2 calli
at base of midlobe..... **B. bimaculata** (India)
- 8b. Flowers yellow; lip without any calli
inside..... **B. arunachalensis** (India)

- 9a. Inflorescence about 3.5 mm long; flowers
yellow; sepals and petals less tha 4 mm long
..... **B. flava** (Malaysia)
- 9b. Inflorescence more tha 3 cm long; flowers white;
sepals and petals more than 5 mm long10
- 10a. Lip with 4 transverse calli on upper half of disc
.....**B. quinquecallosa** (India)
- 10b. Lip with a solitary stipitate callus near
base..... **B. jainiana** (India)

Acknowledgements

Shri. M. B. Lal IFS, Principal Chief Conservator of Forests, Shri. M L Deori IFS, Chief Conservator of Forests (R & E) and Shri. G N Sinha IFS, Director, State Forest Research Institute, Itanagar, Department of Environment & Forests, Government of Arunachal Pradesh are thanked for facilities.

Literature Cited

- Hegde, S. N. & A. N. Rao 1985. *Biermannia jainiana* Hedge et Nageswara Rao – a new species of orchid from Arunachal Pradesh, India. *Bull. Bot. Surv. India* 26:97-99.
- King, G. & R. Pantling 1897. Some new Indo-Malayan orchids. *J. Asiat. Soc. Bengal* 66:591-592.
- King, G. & R. Pantling 1898. The Orchids of Sikkim Himalaya. *Ann. Roy. Bot. Gard. Calcutta* 8:199-200, t.267.
- Seidenfaden, G. 1988. Orchid Genera in Thailand 14. Fifty-nine Vandoid genera. *Opera Bot.* 95:268-269.
- Seidenfaden, G. 1992. The Orchids of Indochina. *Opera Bot.* 114:433.
- Seidenfaden, G. & J. J. Wood 1992. *The Orchids of Peninsular Malaysia and Singapore*. pp. 684-686. Olsen & Olsen, Fredensborg.

Received : 11.8.2005

Revised and accepted : 26.10.2005